

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Transition from TTY to Real-Time Text)	CG Docket No. 16-145
Technology)	
)	
Petition For Rulemaking To Update The)	GN Docket No. 15-178
Commission’s Rules For Access To Support)	
The Transition From TTY To Real-Time Text)	
Technology, And Petition For Waiver Of Rules)	
Requiring Support Of TTY Technology)	
)	

**COMMENTS OF THE
CONSUMER TECHNOLOGY ASSOCIATION F/K/A
THE CONSUMER ELECTRONICS ASSOCIATION**

The Consumer Technology Association (“CTA”)¹ applauds the Commission for commencing this proceeding to “facilitate a transition from outdated text telephone (TTY) technology” to a more reliable modern technology for wireless handsets and similar devices with TTY obligations.² Real-time Text (“RTT”) presents a useful way to begin that transition while improving access for people with disabilities to the U.S. communications system and vital services like emergency access (911) and access to telecommunications relay service (711).

CTA appreciates the Commission’s desire to continue the important progress the consumer technology industry has made toward a more accessible world – one that capitalizes on

¹ The Consumer Technology Association (“CTA”)TM is the trade association representing the \$287 billion U.S. consumer technology industry. More than 2,200 companies – 80 percent are small businesses and startups; others are among the world’s best known brands – enjoy the benefits of CTA membership including policy advocacy, market research, technical education, industry promotion, standards development, and the fostering of business and strategic relationships. CTA also owns and produces CES[®] – the world’s gathering place for all who thrive on the business of consumer technology. Profits from CES are reinvested into CTA’s industry services.

² *Transition from TTY to Real-Time Text Technology, Petition for Rulemaking To Update The Commission’s Rules For Access To Support The Transition From TTY to Real-Time Text Technology, And Petition For Waiver of Rules Requiring Support Of TTY Technology*, CG Docket No. 16-145 & GN Docket No. 15-178, Notice of Proposed Rulemaking ¶ 1 (rel. Apr. 29, 2016) (“NPRM”).

the possibilities of modern technology. CTA proudly participates in one such effort that informs the Commission of this progress: the Disability Advisory Committee (“DAC”).

However, the Commission should avoid adopting overbroad regulations that could limit the development of assistive technologies like RTT or inadvertently extend requirements to products that are not intended for voice communications. The Commission should modify its proposal so that manufacturers have the flexibility to bring the most innovative and effective communications solutions to users who are deaf or have hearing or speech impairments. Because consensus-driven, voluntary standards are best for encouraging new accessibility solutions, the Commission should avoid adopting technical mandates and instead adopt achievable performance objectives. To speed the availability of RTT and encourage innovation by manufacturers, the Commission’s new rules should recognize as compliant devices with pre-installed, downloaded, or native support for RTT. Manufacturers should have a compliance period beyond December 31, 2017, to implement RTT on covered products.

I. NEW RULES TO IMPLEMENT RTT SHOULD BE TARGETED

This rulemaking presents a way to retire outdated TTY accessibility requirements and harness new technologies to meet the needs of people with disabilities. As the *NPRM* shows, RTT is far superior to TTY as an accessibility solution for people who have hearing loss or hearing disabilities.

In advancing RTT, The Commission should not view this proceeding as a means of expanding its requirements to devices and products that were previously never compatible with TTY. For example, the Commission should not use the *NPRM* as a means of expanding the scope of the agency’s 911 services requirements to many other devices such as laptops, tablets, appliances, televisions, and wearables that consumers do not rely on to contact emergency services and have no expectation of using to contact emergency services. Any expansion of

requirements related to 911 connectivity is best addressed in the context of the broader Next Generation 911 transition, after full consideration of the technical issues.³

The emerging Internet of Things (“IoT”) is especially vulnerable to expansive regulation of devices never designed for either TTY or RTT.⁴ Not only is the trend towards smaller information and communication technology generally, but the IoT depends on minimization in power, function, and size.⁵ Many emerging IoT devices specialize in just a few functions, even though they may be capable of displaying text. Such exciting but specialized advancements should be treated differently from a fully functional smartphone, for example.⁶

Feature phones and wireline consumer phones (corded and cordless) collectively present a particular challenge, given their limited means of text entry and limited ability to utilize modern smartphone applications. The Commission should proactively exempt such phones from its proposed RTT requirements. The Commission should clarify that its rules will not require devices to support *both* TTY and RTT, irrespective of their capability to use 2G, 3G, 4G, or IP-based voice technologies. Instead, RTT-TTY backward compatibility should be sufficient to meet Commission accessibility rules.

CTA supports expanding and clarifying the “Wireless VoIP Exemption” proposed in the *NPRM*, under which wireless VoIP services and equipment would not be required to provide

³ See, e.g., *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications*, PS Docket No. 11-153, Second Report and Order and Third Further Notice of Proposed Rulemaking, 29 FCC Rcd 9846 (2014).

⁴ See, e.g., Grace Dobush, *Internet of Things: 13 Innovations for a Smarter Kitchen*, CEA Blog (Apr. 29, 2015), <https://www.ce.org/Blog/Articles/2015/April/Internet-of-Things-13-Innovations-for-a-Smarter-Ki>.

⁵ See, e.g., Brian Markwalter, *Sensing Change*, i³ (May 22, 2014), <http://www.ce.org/i3/Innovate/-2014/May-June/Sensing-Change.aspx> (“In the sensory swarm concept, ultra low-power sensor processor radio units will make up the intelligent environment that surrounds us, sensing and reporting on everything from traffic to trash pickup.”).

⁶ See Comments of the CTA before the Architectural and Transportation Barriers Compliance Board, Docket No. ATBCB-2015-0002, at 8-9 (filed May 28, 2015).

TTY connectability and TTY signal compatibility if they support RTT.⁷ As a threshold matter, the proposed rules do not define “Wireless VoIP.” Instead of adding a new term to its rules, the Commission should work within the framework already in place, designating RTT as an acceptable replacement for TTY for those wireless voice offerings that are required to support TTY today. Any adopted rules should also clearly indicate that the “exemption” extends to the entire device so that if a device providing the regulated VoIP service supports RTT, then the exemption applies to the whole device. There is no reason to require both TTY and RTT support on the same device when the Commission has clearly identified RTT as a superior technology for IP-based applications.⁸

II. RULES BASED ON PERFORMANCE OBJECTIVES WILL BEST ENCOURAGE WIDESPREAD DEVELOPMENT AND DEPLOYMENT OF ACCESSIBLE COMMUNICATIONS TECHNOLOGIES SUCH AS RTT

Flexible rules will ensure that RTT and other accessibility solutions are deployed quickly and in the most efficient manner.

A. *THE COMMISSION SHOULD ENCOURAGE THE USE OF VOLUNTARY STANDARDS IN THE DEVELOPMENT OF RTT*

Voluntary standards enable cost-effective introduction of new technologies while helping drive competition.⁹ Moreover, the Twenty-First Century Communications and Video Accessibility Act of 2010 explicitly rejected specific technical mandates for user interfaces and

⁷ See *NPRM*, App. A, Proposed §§ 6.3(b)(5), 7.3(b)(5).

⁸ See *NPRM* at ¶ 1 (noting the advantages of RTT vis-à-vis TTY); FCC DAC, Recommendation of the FCC Disability Advisory Committee Technology Transitions Subcommittee February 23, 2016 at 3, <https://ecfsapi.fcc.gov/file/60001518532.pdf>.

⁹ See, e.g., Comments of CTA before the National Telecommunications and Information Administration, In the Matter of Input on Proposals and Positions for 2016 World Telecommunication Standardization Assembly, Docket No. 160509408-6408-01 (filed June 16, 2016).

closed captioning and signaled support for safe harbors.¹⁰ Therefore, the Commission should continue to eschew technology mandates. Although adopting RFC 4103 as a safe harbor standard appears to be justified, the Commission should acknowledge that other standards are permitted if they meet the necessary performance objectives for RTT.

B. PERFORMANCE CRITERIA BEST ACHIEVE THE BALANCE BETWEEN ENSURING EFFECTIVE, TIMELY DEPLOYMENT OF RTT AND INNOVATION

One means of providing flexibility is to base any rules on performance objectives, as the Commission has done under Sections 255 and 716 of the Act.¹¹ In doing so, the Commission must clarify the required features and capabilities for RTT. Performance objectives must reflect reasonable expectations of the capabilities of RTT, a technology that is not yet deployed on networks or devices. To the extent the Commission requires cross-carrier portability, the ability to download an app that supports RTT from the new carrier should be deemed to meet this requirement.

CTA cautions against the use of character-by-character requirements, which can ignore innovation in keyboard input methods, where many innovators are trying to better the letter-by-letter QWERTY experience first developed over a hundred years ago. For example, some common keyboard input methods allow users to swipe across a keyboard, use one thumb, or use

¹⁰ Pub. L. No. 111-260, 124 Stat. 2751, 2774 (2010) (permitting an “alternative means of compliance” for entities to meet the user interface requirements for digital apparatus); *id.* at 124 Stat. at 2775 (permitting covered entities to meet the user interface requirements for navigation devices through “separate equipment or software”); *id.* (permitting covered entities “maximum flexibility in the selection of means for compliance” with requirements for activating closed captioning on navigation devices); *see also id.* at 124 Stat. at 2757 (prohibiting the Commission from mandating technical standards for advanced communications services but permitting the Commission to adopt safe harbors for such services).

¹¹ *See, e.g., Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as enacted by the Telecommunications Act of 1996, Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities*, Report and Order and Further Notice of Inquiry, 16 FCC Rcd 6417 (1999); *Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010*; Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 14557 (2011).

voice – creating a more intuitive experience.¹² The Commission should be careful to avoid cutting off text-input innovations by specifying one current method in regulation. Likewise, the limited functionality of feature phones (as described above) can make a character-by-character transmission method fail to convey the message typed by a user, leading to confusion in an emergency situation.

CTA’s members are at the beginning of development of RTT on the network and in devices, and are eager to harness technology to provide the most effective and efficient means of implementing RTT for consumers. It is unclear how any “native” RTT support will be implemented and it is premature to require carrier portability requirements akin to swapping SIMs for RTT generally, and native RTT in particular.¹³ As discussed below, any requirements should be conditioned on technical feasibility and achievability.

To speed the availability of RTT and encourage innovation by manufacturers, the Commission should adopt technology-neutral rules that deem devices to be “RTT-compliant” if they include pre-installed, downloaded, or native support for RTT. The Commission, however, must recognize that downloadable applications may operate over the “best effort” Internet which could impact performance.¹⁴ For example, many downloadable apps run over-the-top (“OTT”), generally operating via the device’s Internet connection, and users often connect their devices to third-party Wi-Fi access points with service quality that is beyond the control of either carriers or

¹² For example, Swiftkey is a keyboard for smartphones and touchscreen devices that allows users to swipe across the keyboard and uses artificial intelligence technologies to predict the next word the user intends to type. Swiftkey, <https://swiftkey.com/en/keyboard/android> (last visited July 6, 2016).

¹³ See *NPRM* ¶¶ 86-88.

¹⁴ Although questions have been raised about the efficacy of best efforts technology in emergency contexts, the merits of downloadable applications – namely the ability to develop and deploy useful technology relatively quickly – outweigh these concerns. See Statement of Commissioner Ajit Pai, *NPRM* at 77 (observing that SMS, a best-efforts messaging technology, has “inherent limitations,” particularly in the emergency context).

manufacturers. Congestion or poor service from the access point could change latency and error rates through no fault of the RTT application provider or device manufacturer.¹⁵ Any rules involving prescriptive quality of service benchmarks should be invoked only when RTT apps are operating under normal managed network conditions, not over the best efforts Internet.

C. BECAUSE OF THE CONSIDERABLE EFFORT RTT FUNCTIONALITY ENTAILS, THE COMMISSION MUST PROVIDE A REASONABLE IMPLEMENTATION DEADLINE AND TARGETED EXEMPTIONS AS WITH OTHER ACCESSIBILITY RULES

The *NPRM* proposes unrealistic implementation deadlines for RTT functionality.¹⁶ The Commission should allow for a reasonable transition period, setting December 31, 2018 as the earliest compliance date.¹⁷ As in other accessibility contexts, manufacturers will use this transition period to implement the new regulatory requirements in a coherent, coordinated, and efficient manner.¹⁸

Further, the Commission should set any new compliance date from the time of device manufacture.¹⁹ Recognizing that introducing “native RTT” into devices represents a major change to the core functionalities and features in end-user devices, the Commission should refrain from imposing any requirement to introduce RTT into existing devices manufactured

¹⁵ See *NPRM* ¶ 70.

¹⁶ See *NPRM* ¶¶ 25-29.

¹⁷ See, e.g., *First User Interface Order*, 28 FCC Rcd at 17399 ¶ 111 (adopting a compliance deadline three years after the publication of the order in the Federal Register); *Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010*; Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 14557, 14601-03 ¶¶ 106-11 (2011) (adopting a two-year phase-in for new accessibility requirements for advanced communication services); *DTV Closed Captioning Order*, 15 FCC Rcd at 16808 ¶ 58 (adopting an “approximately two year period” for manufacturers to comply with new technical requirements).

¹⁸ See, e.g., Comments of CTA, MB Docket No. 12-108 (filed Feb. 24, 2016). Service providers also will have to complete significant work on their networks before service providers and manufacturers will be able to support RTT on devices.

¹⁹ See, e.g., Notes to 47 C.F.R. §§ 15.120(a), 79.101(a)(1),(2), 79.102(a)(1), (2),(3), 79.103(a), 79.104(a), 79.105(a), 79.106(a), 79.107(a)(1), 79.108(a)(1), 79.109(a),(b).

prior to the compliance date.²⁰ The new rules should focus on new devices. Requiring the introduction of RTT capabilities during, for example, software updates of legacy devices, could cause consumer confusion and provide perverse incentives to delay important updates, such as those related to security, from being pushed to devices.²¹

The Commission should also allow covered entities to seek targeted exemptions from any new rule it adopts by affirming that it will freely grant waivers under its existing waiver standards,²² especially regarding technical feasibility, and by introducing and interpreting the “achievable” standard consistent with its prior practice under existing accessibility rules.²³

²⁰ See *NPRM* ¶ 29 (“[S]hould there be a requirement to add RTT capability to end user devices already in service at the compliance deadline, at ‘natural opportunities,’ previously defined by the Commission to occur upon ‘the redesign of a product model or service, new versions of software, upgrades to existing features or functionalities, significant rebundling or unbundling of product and service packages, or any other significant modification that may require redesign?’”). If the Commission were to require RTT to be added to legacy products, which CTA opposes, a defined implementation deadline could be preferable to the vague “natural opportunities” standard discussed in the *NPRM*.

²¹ If the Commission ultimately determines to impose any RTT requirement with respect to legacy devices, manufacturers should be able to meet any requirement through the use of a downloadable and/or OTT application.

²² 47 C.F.R. § 1.3; see also *Northeast Cellular Tel. Co., L.P. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969).

²³ See, e.g., *First User Interface Order*, 28 FCC Rcd at 17379-80 ¶¶ 77-78.

III. CONCLUSION

CTA and its members recognize and support improved access to communications solutions for consumers with hearing and speech disabilities. With a careful, flexible approach, the Commission's rules can continue to encourage increased accessibility without chilling innovation.

Respectfully submitted,

CONSUMER TECHNOLOGY
ASSOCIATION F/K/A CONSUMER
ELECTRONICS ASSOCIATION

By /s/ Julie M. Kearney

Julie M. Kearney
Vice President, Regulatory Affairs

Consumer Technology Association
1919 S. Eads Street
Arlington, VA 22202
(703) 907-7644

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